ULTRABASS BX600

User's Manual

ENGLISH

Version 1.0 May 2001

BEHRINGER

INSTRUMENT AMPLIFICATION

SAFETY INSTRUCTIONS

CAUTION: To reduce the risk of electrical shock, do not remove the cover (or back). No user serviceable parts inside; refer servicing to qualified personnel.

WARNING: To reduce the risk of fire or electrical shock, do not expose this appliance to rain or moisture.

This symbol, wherever it appears, alerts you to the presence of uninsulated dangerous voltage inside the enclosure – voltage that may be sufficient to constitute a risk of shock.

This symbol, wherever it appears, alerts you to important operating and maintenance instructions in the accompanying literature. Read the manual.

DETAILED SAFETY INSTRUCTIONS:
All the safety and operation instructions should be read before the appliance is operated.
Retain Instructions:
The safety and operating instructions should be retained for future reference.
Heed Warnings:
All warnings on the appliance and in the operating instructions should be adhered to.
Follow instructions:
All operation and user instructions should be followed.
Water and Moisture:
The appliance should not be used near water (e.g. near a bathtub, washbowl, kitchen sink, laundry tub, in a wet basement, or near a swimming pool etc.).
Ventilation:
The appliance should be situated so that its location or position does not interfere with its proper ventilaton. For example, the appliance should not be situated on a bed, sofa rug, or similar surface that may block the ventilation openings: or placed in a built-in installation, such as a bookcase or cabinet that may impede the flow of air through the ventilation openings.
Heat:
The appliance should be situated away from heat sources such as radiators, heat registers, stoves, or other appliances (including amplifiers) that produce heat.
Power Source:
The appliance should be connected to a power supply only of the type described in the operating instructions or as marked on the appliance.
Grounding or Polarization:
Precautions should be taken so that the grounding or polarization means of an appliance is not defeated.
Power-Cord Protection:
Power supply cords should be routed so that they are not likely to be walked on or pinched by items placed upon or against them, paying particular attention to cords and plugs, convenience receptacles and the point where they exit from the appliance.
Cleaning:
The appliance should be cleaned only as recommended by the manufacturer.
Non-use Periods:
The power cord of the appliance should be unplugged from the outlet when left unused for a long period of time.
Object and Liquid Entry:
Care should be taken so that objects do not fall and liquids are not spilled into the enclosure through openings.
Damage Requiring Service:
The appliance should be serviced by qualified service personnel when:
- the power supply cord or the plug has been damaged; or
- objects have fallen, or liquid has been spilled into the appliance; or
- the appliance has been exposed to rain; or
- the appliance does not appear to operate normally or exhibits a marked change in performance; or
- the appliance has been dropped, or the enclosure damaged.

Servicing:
The user should not attempt to service the appliance beyond that which is described in the Operating Instructions. All other servicing should be referred to qualified service personnel.

FOREWORD

Dear Customer,

Welcome to the team of ULTRABASS users and thank you very much for expressing your confidence in BEHRINGER products by purchasing the BEHRINGER BX600.

It is one of my most pleasant tasks to write this letter to you, because it is the culmination of many months of hard work delivered by our engineering team to reach a very ambitious goal: to present you with an outstanding Bass Workstation that gives you maximum flexibility and performance with its unique sound character and comprehensive set of functions. The task to design the new ULTRABASS certainly meant a great deal of responsibility, which we assumed by focusing on you, the discerning user and musician. It also meant a lot of work and night shifts to accomplish this goal. But it was fun, too. Developing a product usually brings a lot of people together, and what a great feeling it is when everybody who participated in such a project can be proud of what we've achieved.

It is our philosophy to share our joy with you, because you are the most important member of the BEHRINGER team. With your highly competent suggestions for new products, you've greatly contributed to shaping our company and making it successful. In return, we guarantee you uncompromising quality (manufactured under ISO9000 certified management system) as well as excellent technical and audio properties at an extremely favorable price. All of this will enable you to fully unfold your creativity without being hampered by budget constraints.

We are often asked how we can make it possible to produce such high-grade devices at such unbelievably low prices. The answer is quite simple: it's you, our customers! Many satisfied customers means large sales volumes enabling us to get better conditions of purchase for components, etc. Isn't it only fair to pass this benefit back to you? Because we know that your success is our success, too!

I would like to thank all people whose help on "Project ULTRABASS" has made it all possible. Everybody has made very personal contributions, starting from the designers of the unit (thanks to Axel and Jan who pushed the DYNAMIZER preamp technology) to the many staff members in our company and finally to you, the user of BEHRINGER products.

My friends, it's been worth the trouble!

Thank you very much,

Uli Behringer

ULTRABASS

Ultra-flexible 60-Watt Bass Workstation with DYNAMIZER preamp and SHAPE filter

▲ Powerful 60-Watt (RMS) Bass Workstation with built-in bass reflex cabinet

▲ Special custom-made 12" speaker for powerful, punchy sound

▲ Extremely efficient SHAPE filter for total sound manipulation

▲ Ultimate punch through innovative DYNAMIZER technology

▲ PASSIVE and ACTIVE inputs for the connection of passive/active instruments

▲ Musical opto-limiter for maximum loudness without any distortion or pumping

▲ Short-circuit proof and “indestructible” power amp with passive cooling system (no fan required)

▲ Ultra-musical active 4-band EQ

▲ Built-in headphones output

▲ Preamp output and power amp input for connection to additional bass amplifiers and preamps

▲ Insert option for external effects devices, pedals, stomp boxes etc.

▲ Line output for easy connection to a mixing console

▲ Tape input for line-level signals (e.g. CD player, drum computer)

▲ Extremely rugged construction ensures long life even under the most demanding conditions

▲ Manufactured under ISO9000 certified management system

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WARNING!

☞ **It should be pointed out, that extreme output volumes may damage your ears and/or your headphones. Turn down all LEVEL controls before you switch on the unit. Always pay attention to an appropriate volume.**

1. INTRODUCTION

With the BX600 you have acquired a state-of-the-art Bass Workstation that sets new standards in bass amp engineering. Right from the start, our goal has been to design a revolutionary practice amp that stands out from the herd of “ordinary” bass amplifiers. And indeed, the BX600 gives you plenty of functionality and a broad range of connection and expansion options. In a word: you’ll be fascinated to find that the BX600 is a workstation with a character.

BEHRINGER is an audio engineering company that has been successfully developing professional products for studio and live applications for many years now. Our range of products includes microphones and a variety of 19" devices (compressors, enhancers, noise-gates, tube processors, headphone amps, digital effects devices, DI boxes, etc.) as well as monitoring and P.A. speakers plus professional live and recording consoles. You will find all of our technical know-how combined in your BX600.

We also set great store by flexibility, which has become a particularly important factor in the music business over the past few years. Modern bass players need to offer a broad range of sounds, but should still be able to play in different kinds of applications at short notice: home recording, studio, live concerts. For this reason, it has always been our prime concern to give you a Bass Workstation that offers you a complete set of useful functions, but can still be operated intuitively and quickly.

Additionally, the world of electric bass playing has changed: new basses, with five or six strings, are being launched all the time, there are effects devices and the desire to create one’s own “unique” sound—which can only be achieved with innovative amplifiers. The unique ULTRABASS BX600 gives you pioneering sounds coming from an extremely compact design.

As technology advances, you’ve got to keep track of latest technological breakthroughs to avoid falling by the wayside. Which is what we did, by continuously improving this Bass Workstation and including many of your valuable suggestions.

Experience a new-generation Bass Workstation with fascinating features:

- ▲ Astounding sound diversity through the SHAPE filter.
- ▲ State-of-the-art amplifier technology combined with a built-in bass cabinet give you precision in the treble and punch in the bass range.
- ▲ The high-grade and custom-built 12" speaker opens up new dimensions in terms of sound.
- ▲ The rugged and compact design makes the ULTRABASS your favorite amp for club gigs and rehearsals.
- ▲ With its highly useful expansion options, your BX600 is the perfect base for an expanded bass amplification set-up.

1.1 The concept

We designed the BX600 to finally start the world of bass amp design moving. Your absolutely low-noise and indestructible Bass Workstation represents the current state of the art.

The robust cabinet is made of high-grade and non-polluting E1-MDF boards, which are grooved, multi-glued and free of formaldehydes. This is to make sure that your BX600 keeps working even when the going gets tough.

1.1.1 The DYNAMIZER Technology

When it comes to amplifying the signals delivered by electric instruments, you’ve got to separate the wheat from the chaff. Unlike mixed or mastered signals, electric instruments usually deliver extremely high signal peaks which, when raised in gain, produce nasty distortion. How an amplifier responds to these signal peaks can therefore be seen as one of its most essential quality features.

Many manufacturers use limiters preceding the power stage to limit dynamic signal peaks. However, the problem is the preamp, which is why we’ve equipped the BX600 with our unique DYNAMIZER preamp circuit that gives you a lively and punchy sound with signal peaks—even if the amp reaches its power limits. Extreme signal peaks are limited effectively while the average level and hence the power of the overall signal is raised. The sound gets more vivid and powerful in character, without any unmusical distortion. With its opto-limiter in the power stage it is virtually impossible to overdrive the ULTRABASS BX600.

1.2 Before you begin

Your BX600 was carefully packed in the factory and the packaging is designed to protect the unit from rough handling. Nevertheless, we recommend that you carefully examine the packaging and its contents for any signs of physical damage, which may have occurred during transit.

☞ **If the unit is damaged, please do not return it to BEHRINGER, but notify your dealer and the shipping company immediately, otherwise claims for damage or replacement may not be granted. Shipping claims must be made by the consignee.**

Be sure that there is enough space around the unit for cooling and please do not place the ULTRABASS on high-temperature devices such as radiators etc. to avoid overheating.

☞ **Before you connect your ULTRABASS to the mains, please make sure that your local voltage matches the voltage required by the unit:**

The fuse holder on the female mains connector has 3 triangular markings, with two of these triangles opposing each other. The ULTRABASS is set to the operating voltage printed next to these markers and can be set to another voltage by turning the fuse holder by 180°. **CAUTION: This instruction does not apply to export models exclusively designed, e.g. for 115-V operation!**

Please use the enclosed power cord to connect the unit to the mains. The cord complies with all applicable safety standards.

☞ **Please note that all units must be grounded properly. For your own safety, you should never remove any ground connectors from electrical devices or power cords or render them inoperative.**

You will find additional information in chapter 4 “INSTALLATION”.

1.3 Control elements

1.3.1 Front panel

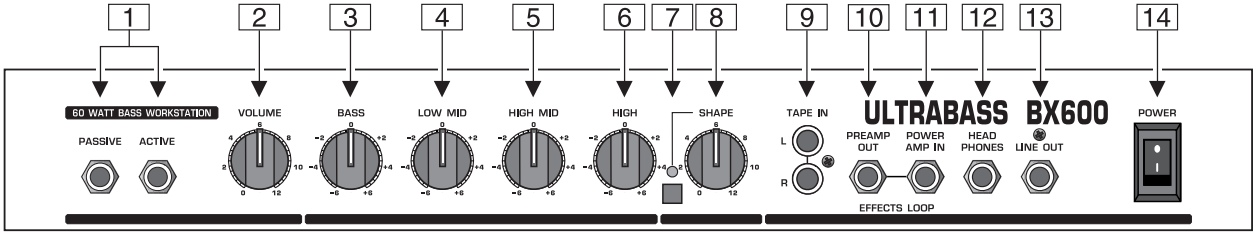

Fig. 1.1: Front panel control elements

1 These are the inputs for your electric bass guitar. The *PASSIVE* jack is for passive basses providing a low-level output signal, the *ACTIVE* jack is for active instruments.

2 Use the *VOLUME* control to set the overall volume level of the BX600.

3 The *BASS* control in the EQ section allows you to boost or cut the bass frequencies.

4 With the *LOW MID* control you can boost/cut the low midrange frequencies.

5 The *HIGH MID* control adjusts the boost/cut of the upper midrange frequencies.

6 The *HIGH* control allows you to boost/cut the treble range on your BX600.

7 Use this key to activate the SHAPE filter. The LED above the key lights up.

8 The *SHAPE* control modifies the sound of the SHAPE filter.

9 The *TAPE IN* (RCA) allows you to connect an external signal source such as a drum computer or other machine providing audio playbacks.

10 The *PREAMP OUT* allows you to drive an external bass amplifier.

11 Use the *POWER AMP IN* to feed in the output signal from an external bass amplifier.

☞ **The PREAMP OUT and POWER AMP IN connectors can also be used to insert an external effects device such as our BEHRINGER VIRTUALIZER PRO DSP1024P. Simply connect the PREAMP output to the input, and the POWER AMP input to the output of the effects unit.**

12 The 1/4" stereo *PHONES* jack allows you to monitor the BX600's audio signal with a pair of headphones. Connecting the headphones will mute the built-in speaker.

13 The *LINE OUT* mono jack provides the audio signal of your ULTRABASS, for example, to send it to a recording machine or line input on a mixing console.

☞ **You can also use the LINE OUT to connect a tuner.**

14 Use the *POWER* switch to switch the BX600 on or off.

1.3.2 Rear panel

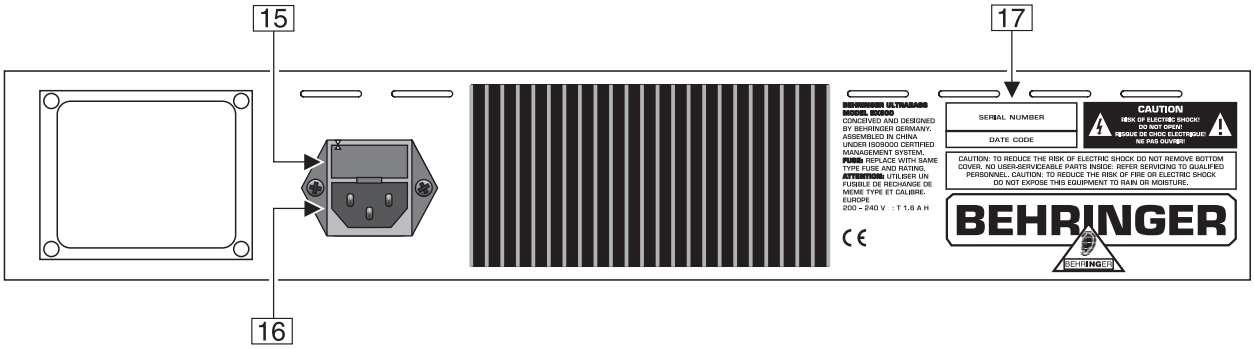

Fig. 1.3: Rear panel connectors

15 *FUSE HOLDER / VOLTAGE SELECTOR*. Please make sure that your local voltage matches the voltage indicated on the unit, before you attempt to connect and operate the BX600. Blown fuses may only be replaced by fuses of the same type and rating. Some models allow for inserting the fuse holder in two different positions, in order to switch over from 230-V to 115-V operation, and vice versa. Please note that for 115-V operation outside Europe, you need to use a fuse of a higher rating (see chapter 4 "INSTALLATION").

16 Use the enclosed power cord to connect the unit to the mains.

17 *SERIAL NUMBER*. Please take the time to fill out and return the warranty card within 14 days after the date of purchase, so as to be entitled to benefit from our extended warranty. Or use our online registration option available on the World Wide Web at www.behringer.com.

2. WIRING EXAMPLES

2.1 Standard set-up comprising external drum computer, tuner and headphones

The standard set-up is intended for sessions and rehearsals. Instead of a drum computer you can of course use any other source that provides audio playbacks, e.g. a cassette recorder or CD player.

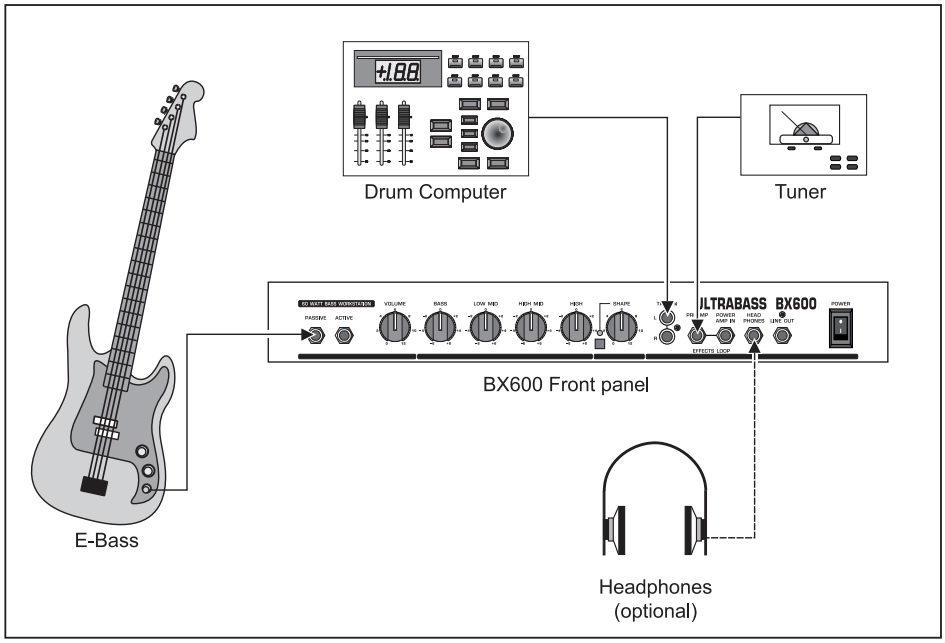

Fig. 2.1: Standard set-up

2.2 Expanded set-up with external effects device and connection to a mixing console

For gigs or rehearsals with your band we recommend the wiring scheme shown here, which builds on the standard set-up.

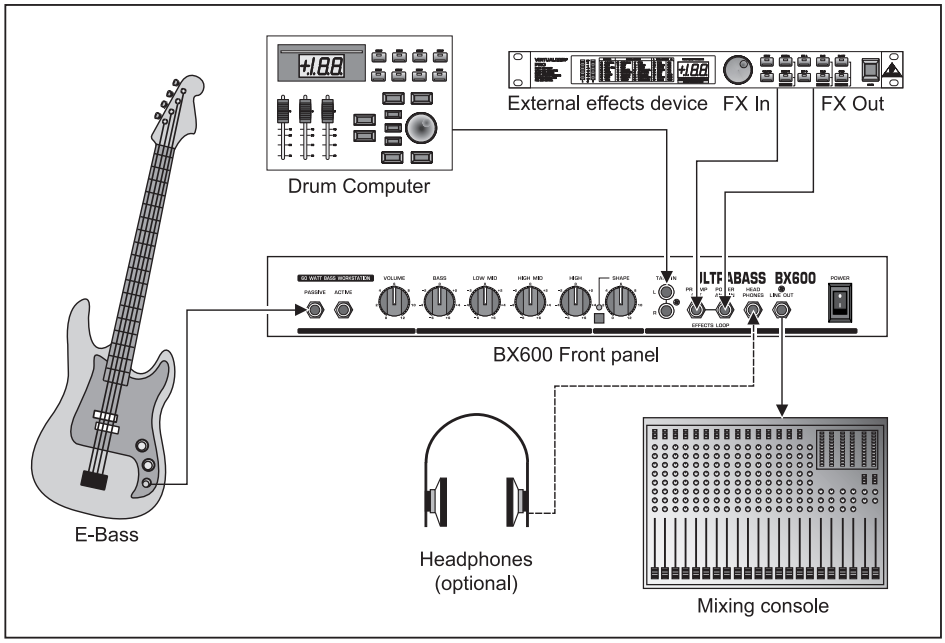

Fig. 2.2: Expanded set-up

2.3 Set-up for master/slave operation

2.3.1 ULTRABASS BX600 as master device

The PREAMP OUT jack allows you to connect the BX600 to an external power amp, using a commercial instrument cable equipped with mono phone plugs. Then, connect the PREAMP OUT jack to the input on the external power amp.

2.3.2 ULTRABASS BX600 as slave device controlled by an external amp/preamp

To use the power amp of your ULTRABASS for an external amp or preamp you need to connect the line output of the external amplifier to the POWER AMP IN jack on your BX600.

3. THE SHAPE FUNCTION

The SHAPE function on your BX600 provides a revolutionary type of filter that you can use to modify your bass sound in full detail. The filter allows you to shape your sound—which is a must for bass players today. Extreme filter settings will give your bass sound more power, for example:

You want to play a live bass solo but the sound doesn't cut through. The solo should stand out, rather than being drowned. Set up a solid basic sound, then use the SHAPE filter to create a very distinctive solo sound. Use the IN button to toggle between the two sounds.

The SHAPE filter is a bargain when you are using two different bass guitars. Maybe you want to change from a jazz bass to a fretless bass, and vice versa—two instruments with a completely different sound. During gigs you often lack the time to set up your amp for a different instrument, so you'll be happy to have a BX600, because you can use the SHAPE filter for your fretless sound, and the basic sound for the jazz bass.

4. INSTALLATION

4.1 Audio connections

Except for the tape input which has cinch connectors, all inputs and outputs of your BEHRINGER ULTRABASS are on mono 1/4" jacks.

☞ **Please ensure that only qualified personnel install and operate the BX600. During installation and operation the user must have sufficient electrical contact to earth. Electrostatic charges might affect the operation of the unit.**

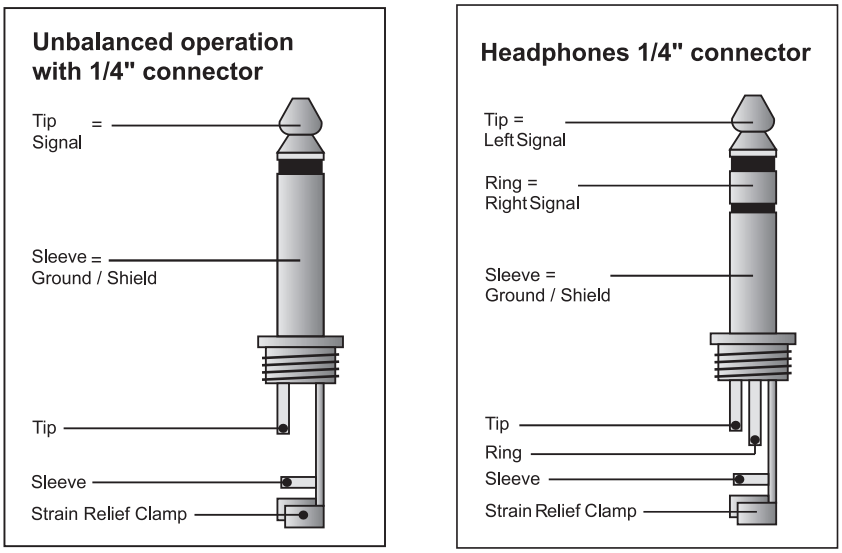

Fig. 4.1: Wiring of mono and stereo (headphones) 1/4" plugs

5. SPECIFICATIONS

AUDIO INPUTS

Passive E-Bass input	1/4" mono jack, unbalanced
Input impedance	approx. 1 MΩ
Active E-bass input	1/4" mono jack, unbalanced
Input impedance	approx. 130 kΩ
Power Amp input	1/4" mono jack, unbalanced
Input impedance	approx. 25 kΩ
Tape input	RCA connector, unbalanced
Input impedance	approx. 68 kΩ

AUDIO OUTPUTS

Headphones connector	1/4" stereo jack
Preamp output	1/4" mono jack, unbalanced
Output impedance	approx. 1 kΩ
Line output	1/4" mono jack

SYSTEM SPECIFICATIONS

Power amp output	60 Watts into 8 Ω

LOUDSPEAKER

Type	12B50A8
Impedance	8 Ω
Power rating	50 Watts RMS

POWER SUPPLY

Mains voltages	U.S./Canada	120 V ~, 60 Hz
	U.K./Australia	240 V ~, 50 Hz
	Europe	230 V ~, 50 Hz
	General export model	100 - 120 V ~, 200 - 240 V ~, 50 - 60 Hz
Power consumption	143 W	
Fuse	100 - 120 V ~: **T 2 A H**	
	200 - 240 V ~: **T 1.6 A H**	
Mains connection	Standard IEC receptacle	

PHYSICAL/WEIGHT

Dimensions (H * W * D)	approx. 21 3/4" (550 mm) * 18 1/8" (460 mm) * 12" (305 mm)
Weight	approx. 20 kg

BEHRINGER is constantly striving to maintain the highest professional standards. As a result of these efforts, modifications may be made from time to time to existing products without prior notice. Specifications and appearance may differ from those listed or illustrated.

6. WARRANTY

§ 1 WARRANTY CARD/ONLINE REGISTRATION

To be protected by the extended warranty, the buyer must complete and return the enclosed warranty card within 14 days of the date of purchase to BEHRINGER Spezielle Studiotechnik GmbH, in accordance with the conditions stipulated in § 3. Failure to return the card in due time (date as per postmark) will void any extended warranty claims.

Based on the conditions herein, the buyer may also choose to use the online registration option via the Internet (www.behringer.com or www.behringer.de).

§ 2 WARRANTY

1. BEHRINGER (BEHRINGER Spezielle Studiotechnik GmbH including all BEHRINGER subsidiaries listed on the enclosed page, except BEHRINGER Japan) warrants the mechanical and electronic components of this product to be free of defects in material and workmanship for a period of one (1) year from the original date of purchase, in accordance with the warranty regulations described below. If the product shows any defects within the specified warranty period that are not due to normal wear and tear and/or improper handling by the user, BEHRINGER shall, at its sole discretion, either repair or replace the product.

2. If the warranty claim proves to be justified, the product will be returned to the user freight prepaid.

3. Warranty claims other than those indicated above are expressly excluded.

§ 3 RETURN AUTHORIZATION NUMBER

1. To obtain warranty service, the buyer (or his authorized dealer) must call BEHRINGER (see enclosed list) during normal business hours **BEFORE** returning the product. All inquiries must be accompanied by a description of the problem. BEHRINGER will then issue a return authorization number.

2. Subsequently, the product must be returned in its original shipping carton, together with the return authorization number to the address indicated by BEHRINGER.

3. Shipments without freight prepaid will not be accepted.

§ 4 WARRANTY REGULATIONS

1. Warranty services will be furnished only if the product is accompanied by a copy of the original retail dealer's invoice. Any product deemed eligible for repair or replacement by BEHRINGER under the terms of this warranty will be repaired or replaced within 30 days of receipt of the product at BEHRINGER.

2. If the product needs to be modified or adapted in order to comply with applicable technical or safety standards on a national or local level, in any country which is not the country for which the product was originally developed and manufactured, this modification/adaptation shall not be considered a defect in materials or workmanship. The warranty does not cover any such modification/adaptation, irrespective of whether it was carried out properly or not. Under the terms of this warranty, BEHRINGER shall not be held responsible for any cost resulting from such a modification/adaptation.

3. Free inspections and maintenance/repair work are expressly excluded from this warranty, in particular, if caused by improper handling of the product by the user.

This also applies to defects caused by normal wear and tear, in particular, of faders, potentiometers, keys/buttons and similar parts.

4. Damages/defects caused by the following conditions are not covered by this warranty:

- misuse, neglect or failure to operate the unit in compliance with the instructions given in BEHRINGER user or service manuals.
- connection or operation of the unit in any way that does not comply with the technical or safety regulations applicable in the country where the product is used.
- damages/defects caused by force majeure or any other condition that is beyond the control of BEHRINGER.

5. Any repair or opening of the unit carried out by unauthorized personnel (user included) will void the warranty.

6. If an inspection of the product by BEHRINGER shows that the defect in question is not covered by the warranty, the inspection costs are payable by the customer.

7. Products which do not meet the terms of this warranty will be repaired exclusively at the buyer's expense. BEHRINGER will inform the buyer of any such circumstance. If the buyer fails to submit a written repair order within 6 weeks after notification, BEHRINGER will return the unit C.O.D. with a separate invoice for freight and packing. Such costs will also be invoiced separately when the buyer has sent in a written repair order.

§ 5 WARRANTY TRANSFERABILITY

This warranty is extended exclusively to the original buyer (customer of retail dealer) and is not transferable to anyone who may subsequently purchase this product. No other person (retail dealer, etc.) shall be entitled to give any warranty promise on behalf of BEHRINGER.

§ 6 CLAIM FOR DAMAGES

Failure of BEHRINGER to provide proper warranty service shall not entitle the buyer to claim (consequential) damages. In no event shall the liability of BEHRINGER exceed the invoiced value of the product.

§ 7 OTHER WARRANTY RIGHTS AND NATIONAL LAW

1. This warranty does not exclude or limit the buyer's statutory rights provided by national law, in particular, any such rights against the seller that arise from a legally effective purchase contract.

2. The warranty regulations mentioned herein are applicable unless they constitute an infringement of national warranty law.

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